

REMARKS

Claims 9 and 11-13 are presented for further examination.

The present invention relates to a method for conveying a substrate from a first base having a first substrate holding mechanism to a second base having a second substrate holding mechanism using a conveyor that includes a third substrate holding mechanism. As recited in independent claim 9, each of the first, second and third substrate holding mechanisms includes a surface on which the substrate is held.

According to the claimed method, the substrate is initially held by the first substrate holding mechanism. With the first substrate holding mechanism holding the substrate, the third substrate holding mechanism is driven so as to transfer the substrate to the third substrate holding mechanism to be held thereon. Thereafter, the substrate is conveyed from the first base to the second base. With the substrate still attached to the third substrate holding mechanism, the second substrate holding mechanism is driven so as to transfer the substrate to the second substrate holding mechanism to be held thereon.

Notably, the surface of the third substrate holding mechanism is face-to-face with the surface of the first substrate holding mechanism when the substrate is transferred from the first substrate holding mechanism to the third

substrate holding mechanism, and the surface of the third substrate holding mechanism is face-to-face with the surface of the second substrate holding mechanism when the substrate is transferred from the third substrate holding mechanism to the second substrate holding mechanism.

The rejection of claims 9 and 11 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent Application Publication No. 2001/0021571 ("Koma") in view of U.S. Patent No. 5,562,800 ("Kawamura") and the rejection of claims 12 and 13 under 35 U.S.C. § 103(a) as allegedly unpatentable over Koma in view of Kawamura in view of U.S. Patent Application Publication No. 2001/0016157 ("Sundar") are respectfully traversed.

Koma discloses a semiconductor wafer processing apparatus for grinding a surface of a semiconductor wafer to thin the semiconductor wafer, comprising a grinding portion for mechanically grinding the semiconductor wafer, a wafer cleaning portion for cleaning the semiconductor wafer after mechanical grinding, a damaged layer removal treatment portion for removing a damaged layer, caused to the semiconductor wafer by mechanical grinding, after cleaning by the wafer cleaning portion, and a wafer transport mechanism for transferring the semiconductor wafer between the grinding portion, the wafer cleaning portion, and the damaged layer removal treatment portion. (Page 1, Paragraph [0005]).

Koma further discloses that a first wafer transport portion 9A is constituted by mounting an attracting head 25A to a front end of a transport arm 24A. (Page 4, Paragraph [0041]).

The Office Action equates transport arm 24A of Koma with the “conveyor” of the present claims and attracting head 25A of Koma with the “third substrate holding mechanism” of the present claims.

FIG. 11 of Koma is a flow chart for cleaning of a semiconductor wafer at the wafer cleaning portion 10 in the semiconductor wafer processing method. (Page 2, Paragraph [0019] and Page 7, Paragraph [0070]).

However, cleaning of the wafer at the wafer cleaning portion 10 has no relation to the operations of the transport arm 24A and the attracting head 25A. Thus, the Examiner cannot reply on Fig. 11 of Koma for alleged disclosure of the operations of the “conveyor” and the “third substrate holding mechanism” of the present claims.

Koma discloses that the semiconductor wafer 11 is attracted to and held by rotary support portion 40 by vacuum suction through the attraction holes 40a (ST2), and the attraction of the semiconductor wafer 11 by the attracting head 25B (of transport arm 24B) is released (ST3). (Page 7, Paragraph [0071]). Koma further discloses that the upper surface of the semiconductor wafer 11 is attracted by the attraction holes 17a of the wafer holding portion 17, and the

attraction by the attraction holes 40a of the rotary support portion 40 is released (ST13). (Page 7, Paragraph [0073]).

The Office Action seemingly has also equated rotary support portion 40 of Koma with the “conveyor” of the present claims, which is inconsistent with the transport arm 24A of Koma being equated with the “conveyor” of the present claims.

Even assuming *arguendo* that transport arm 24B of Koma corresponds to the “conveyor” of the present claims, ST2-ST3 of Fig. 11 of Koma, which the Office Action equates with the “conveyor attaching the third substrate holding mechanism including an electrostatic chuck to the substrate with the first substrate holding mechanism holding the substrate” of the present claims, merely transfer the semiconductor wafer 11 from the attracting head 25B of the transport arm 24B onto the rotary support 40, which is opposite to the configuration asserted in the Office Action.

Additionally, the Office Action equates ST5 of Fig. 11 of Koma with the “conveyor conveying the substrate from the first base to the second base” of the present claims. However, ST5 merely represents that the motor 44 is driven to rotate the rotary support portion 40 and spin the semiconductor wafer 11. (Page 7, Paragraph [0073]). Thus, ST5 of Fig. 11 of Koma neither discloses nor suggests transferring the semiconductor wafer 11, which the Office Action equates with the “substrate” of the present claims.

Kawamura, which the Office Action cites merely for disclosure of “a holding mechanism for a conveyor being an electrostatic chuck”, which the Office Action equates with the “third holding mechanism including an electrostatic chuck” of the present claims (page 3), does not cure the above-noted deficiencies with regard to Koma.

Accordingly, the proposed combination of Koma and Kawamura fails to disclose or suggest all of the features of independent claim 9.

Similarly, Sundar, which the Office Action cites merely for disclosure of “a second base, which is an electrostatic chuck, is provided in reduced pressure chambers ([0089], ln. 22) in order to a secure wafer for processing ([0089], ln. 22-25) and to protect the substrate from debris from the processing” (page 4), does not cure the above-noted deficiencies with regard to Koma and Kawamura.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

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Respectfully submitted,



Jeffrey D. Sanok
Registration No. 32,169
Asaf Batelman
Registration No. 52,600

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844
JDS:AB/cee
dn#5994666